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SEQUENCE LISTING

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<120> PRODUCTION OF HUMAN PARATHYROID HORMONE FROM MICROORGANISMS

<130> 16777/309

<140> 09/287,332
<141> 1999-04-07

<160> 25

<170> PatentIn Ver. 2.1

<210> 1
<211> 348
<212> DNA
<213> Homo sapiens

<220>
<223> "n" bases at various positions throughout the sequence represent a, g, c, or t

<400> 1
atgathccng cnaargayat ggcnaargtn atgathgtna tgytngcnat htgyttyytn 60
acnaarwsng ayggnaarws ngtnaaraar mgnwsngtnw sngarathca rytnatgcay 120
aayytnggna arcayytnaa ywsnatggar mgngtngart ggytnmgnaa raarytncar 180
gaygtncaya ayttygtngc nytnggngcn ccnytngcnc cnmgngaygc nggnwsncar 240
mgnccnmgna araargarga yaaygtnytn gtngarwsnc aygaraarws nytnggngar 300
gcngayaarg cngaygtnaa ygtnytnacn aargcnaarw sncartrr 348

<210> 2
<211> 351
<212> DNA
<213> Homo sapiens

<400> 2
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cttacaaaat cggatgggaa atctgttaag aagagatctg tgagtgaaat acagcttatg 120
cataacctgg gaaaacatct gaactcgatg gagagagtag aatggctgcg taagaagctg 180
caggatgtgc acaattttgt tgcccttgga gctcctctag ctcccagaga tgctggttcc 240
cagaggcccc gaaaaaagga agacaatgtc ttggttgaga gccatgaaaa aagtcttgga 300
gaggcagaca aagctgatgt gaatgtatta actaaagcta aatcccagtg a 351

<210> 3
<211> 432
<212> DNA
<213> Homo sapiens

<220>
<223> "n" bases at various positions throughout the sequence

represent a, g, c, or t

<400> 3
tatgatgath ccngcnaarg ayatggcnaa rgtnatgath gtnatgytng cnathtgytt 60
yytnacnaar wsngayggna arwsngtnaa raarmgnwsn gtnwsngara thcarytnat 120
gcayaayytn ggnaarcayy tnaaywsnat ggarmgngtn gartggytnm gnaaraaryt 180
ncargaygtn cayaayttyg tngcnytngg ngcnccnytn gcnccnmgng aygcnggnws 240
ncarmgnccn mgnaaraarg argayaaygt nytngtngar wsncaygara arwsnytngg 300
ngargcngay aargcngayg tnaaygtnyt nacnaargcn aarwsncart rraaatgaaa 360
acagatattg tcagagttct gctctagaca gtgtagggca acaatacatg ctgctaattc 420
aaagctctat ta 432

<210> 4
<211> 432
<212> DNA
<213> Homo sapiens

<400> 4
tatgatgata cctgcaaaag acatggctaa agttatgatt gtcatgttgg caatttgttt 60
tcttacaaaa tcggatggga aatctgttaa gaagagatct gtgagtgaaa tacagcttat 120
gcataacctg ggaaaacatc tgaactcgat ggagagagta gaatggctgc gtaagaagct 180
gcaggatgtg cacaattttg ttgcccttgg agctcctcta gctcccagag atgctggttc 240
ccagaggccc cgaaaaaagg aagacaatgt cttggttgag agccatgaaa aaagtcttgg 300
agaggcagac aaagctgatg tgaatgtatt aactaaagct aaatcccagt gaaaatgaaa 360
acagatattg tcagagttct gctctagaca gtgtagggca acaatacatg ctgctaattc 420
aaagctctat ta 432

<210> 5
<211> 432
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (5)..(349)

<400> 5
tatg atg ata cct gca aaa gac atg gct aaa gtt atg att gtc atg ttg 49
Met Ile Pro Ala Lys Asp Met Ala Lys Val Met Ile Val Met Leu
1 5 10 15

gca att tgt ttt ctt aca aaa tcg gat ggg aaa tct gtt aag aag aga 97
Ala Ile Cys Phe Leu Thr Lys Ser Asp Gly Lys Ser Val Lys Lys Arg
20 25 30

tct gtg agt gaa ata cag ctt atg cat aac ctg gga aaa cat ctg aac 145
Ser Val Ser Glu Ile Gln Leu Met His Asn Leu Gly Lys His Leu Asn
35 40 45

tcg atg gag aga gta gaa tgg ctg cgt aag aag ctg cag gat gtg cac 193
Ser Met Glu Arg Val Glu Trp Leu Arg Lys Lys Leu Gln Asp Val His
50 55 60

aat ttt gtt gcc ctt gga gct cct cta gct ccc aga gat gct ggt tcc 241
Asn Phe Val Ala Leu Gly Ala Pro Leu Ala Pro Arg Asp Ala Gly Ser
65 70 75

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cag agg ccc cga aaa aag gaa gac aat gtc ttg gtt gag agc cat gaa   289
Gln Arg Pro Arg Lys Lys Glu Asp Asn Val Leu Val Glu Ser His Glu
 80                  85                  90                  95

aaa agt ctt gga gag gca gac aaa gct gat gtg aat gta tta act aaa   337
Lys Ser Leu Gly Glu Ala Asp Lys Ala Asp Val Asn Val Leu Thr Lys
                100                 105                 110

gct aaa tcc cag tgaaaatgaa aacagatatt gtcagagttc tgctctagac       389
Ala Lys Ser Gln
            115

agtgtagggc aacaatacat gctgctaatt caaagctcta tta                   432


<210> 6
<211> 115
<212> PRT
<213> Homo sapiens

<400> 6
Met Ile Pro Ala Lys Asp Met Ala Lys Val Met Ile Val Met Leu Ala
  1               5                  10                  15

Ile Cys Phe Leu Thr Lys Ser Asp Gly Lys Ser Val Lys Lys Arg Ser
             20                  25                  30

Val Ser Glu Ile Gln Leu Met His Asn Leu Gly Lys His Leu Asn Ser
         35                  40                  45

Met Glu Arg Val Glu Trp Leu Arg Lys Lys Leu Gln Asp Val His Asn
     50                  55                  60

Phe Val Ala Leu Gly Ala Pro Leu Ala Pro Arg Asp Ala Gly Ser Gln
 65                  70                  75                  80

Arg Pro Arg Lys Lys Glu Asp Asn Val Leu Val Glu Ser His Glu Lys
                 85                  90                  95

Ser Leu Gly Glu Ala Asp Lys Ala Asp Val Asn Val Leu Thr Lys Ala
            100                 105                 110

Lys Ser Gln
        115


<210> 7
<211> 874
<212> DNA
<213> Homo sapiens

<220>
<223> MFa1-hPTH fusion gene

<400> 7
agtgcaagaa aaccaaaaag caacaacagg ttttggataa gtacatatat aagagggcct 60
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tttgttccca tcaaaaatgt tactgttctt acgattcatt tacgattcaa gaatagttca 120
aacaagaaga ttacaaacta tcaatttcat acacaatata aacgaccaaa agaatgagat 180
ttccttcaat ttttactgca gttttattcg cagcatcctc cgcattagct gctccagtca 240
acactacaac agaagatgaa acggcacaaa ttccggctga agctgtcatc ggttactcag 300
atttagaagg ggatttcgat gttgctgttt tgccattttc caacagcaca aataacgggt 360
tattgtttat aaatactact attgccagca ttgctgctaa agaagaaggg gtatctttgg 420
ataaaagaga ggctgaagct tctgtgagtg aaatacagct tatgcataac ctgggaaaac 480
atctgaactc gatggagaga gtagaatggc tgcgtaagaa gctgcaggat gtgcacaatt 540
ttgttgccct tggagctcct ctagctccca gagatgctgg ttcccagagg ccccgaaaaa 600
aggaagacaa tgtcttggtt gagagccatg aaaaaagtct tggagaggca gacaaagctg 660
atgtgaatgt attaactaaa gctaaatccc agtgaaaatg aaaacagata ttgtcagagt 720
tctgctctag agtcgacttt gttcccactg tacttttagc tcgtacaaaa tacaatatac 780
ttttcatttc tccgtaaaca acctgttttc ccatgtaata tccttttcta tttttcgttt 840
cgttaccaac tttacacata ctttatatag ctat 874

<210> 8
<211> 874
<212> DNA
<213> Homo sapiens

<220>
<223> MFA1-hPTH fusion gene

<220>
<223> "n" bases at various positions throughout the sequence
represent a, g, c, or t

<400> 8
agtgcaagaa aaccaaaaag caacaacagg ttttggataa gtacatatat aagagggcct 60
tttgttccca tcaaaaatgt tactgttctt acgattcatt tacgattcaa gaatagttca 120
aacaagaaga ttacaaacta tcaatttcat acacaatata aacgaccaaa agaatgagat 180
ttccttcaat ttttactgca gttttattcg cagcatcctc cgcattagct gctccagtca 240
acactacaac agaagatgaa acggcacaaa ttccggctga agctgtcatc ggttactcag 300
atttagaagg ggatttcgat gttgctgttt tgccattttc caacagcaca aataacgggt 360
tattgtttat aaatactact attgccagca ttgctgctaa agaagaaggg gtatctttgg 420
ataaaagaga ggctgaagct wsngtnwsng arathcaryt natgcayaay ytnggnaarc 480
ayytnaayws natggarmgn gtngartggy tnmgnaaraa rytncargay gtncayaayt 540
tygtngcnyt nggngcnccn ytngcnccnm gngaygcngg nwsncarmgn ccnmgnaara 600
argargayaa ygtnytngtn garwsncayg araarwsnyt nggngargcn gayaargcng 660
aygtnaaygt nytnacnaar gcnaarwsnc artrraaatg aaaacagata ttgtcagagt 720
tctgctctag agtcgacttt gttcccactg tacttttagc tcgtacaaaa tacaatatac 780
ttttcatttc tccgtaaaca acctgttttc ccatgtaata tccttttcta tttttcgttt 840
cgttaccaac tttacacata ctttatatag ctat 874

<210> 9
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
Oligonucleotide

<400> 9
ggctgcgtca gaagctgc 18

<210> 10
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
Oligonucleotide

<400> 10
tactatggac gttttctgta ccga 24

<210> 11
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
Oligonucleotide

<400> 11
ctcaagacga gatctgtcac atcc 24

<210> 12
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
Oligonucleotide

<400> 12
gatcagatct gcaggatgga tccaaagctt 30

<210> 13
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
Oligonucleotide

<400> 13
tctagacgtc ctacctaggt ttcgaactag 30

<210> 14
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
Oligonucleotide

<400> 14
tggcattggc tgcaactaaa gc 22

<210> 15
<211> 4
<212> PRT
<213> Homo sapiens

<400> 15
Glu Ala Glu Ala
1

<210> 16
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
Oligonucleotide

<400> 16
ggataaaaga tctgtgag 18

<210> 17
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
Oligonucleotide

<400> 17
ctcacagatc ttttatcc 18

<210> 18
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Translation
peptide

<400> 18
Asp Lys Arg Ser Val
1 5

<210> 19
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Translation peptide

<400> 19
Asp Lys Arg Glu Ala Glu Ala Ser Val
1 5

<210> 20
<211> 12
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Looped out sequence

<400> 20
agcttcagcc tc 12

<210> 21
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Oligonucleotide

<400> 21
ggctgcgtca gaagctgc 18

<210> 22
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Oligonucleotide

<400> 22
ggctgcgtcc agaagctgc 19

<210> 23
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
Oligonucleotide

<400> 23
gcagcttctt acgcagcc 18

<210> 24
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Translation
peptide

<400> 24
Leu Arg Gln Lys Leu
1 5

<210> 25
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Translation
peptide

<400> 25
Leu Arg Lys Lys Leu
1 5